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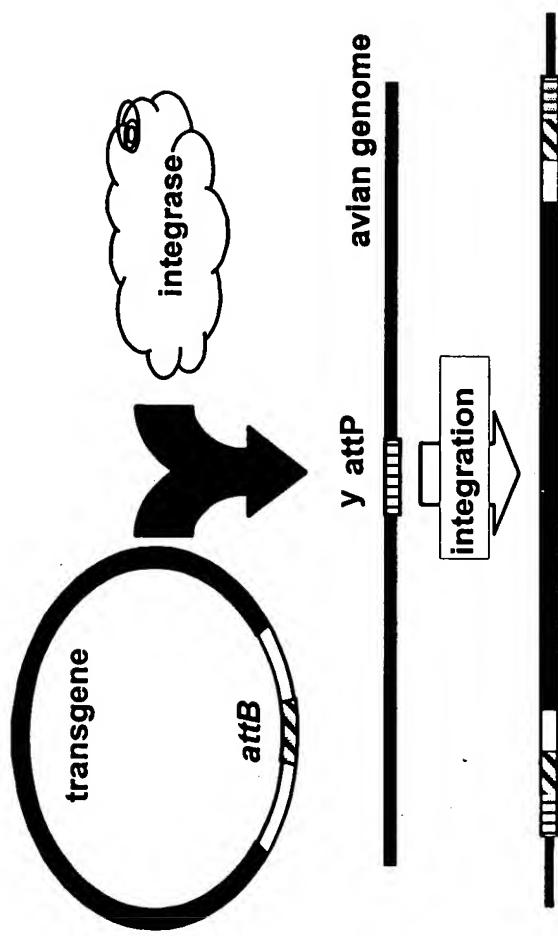


Fig. 1

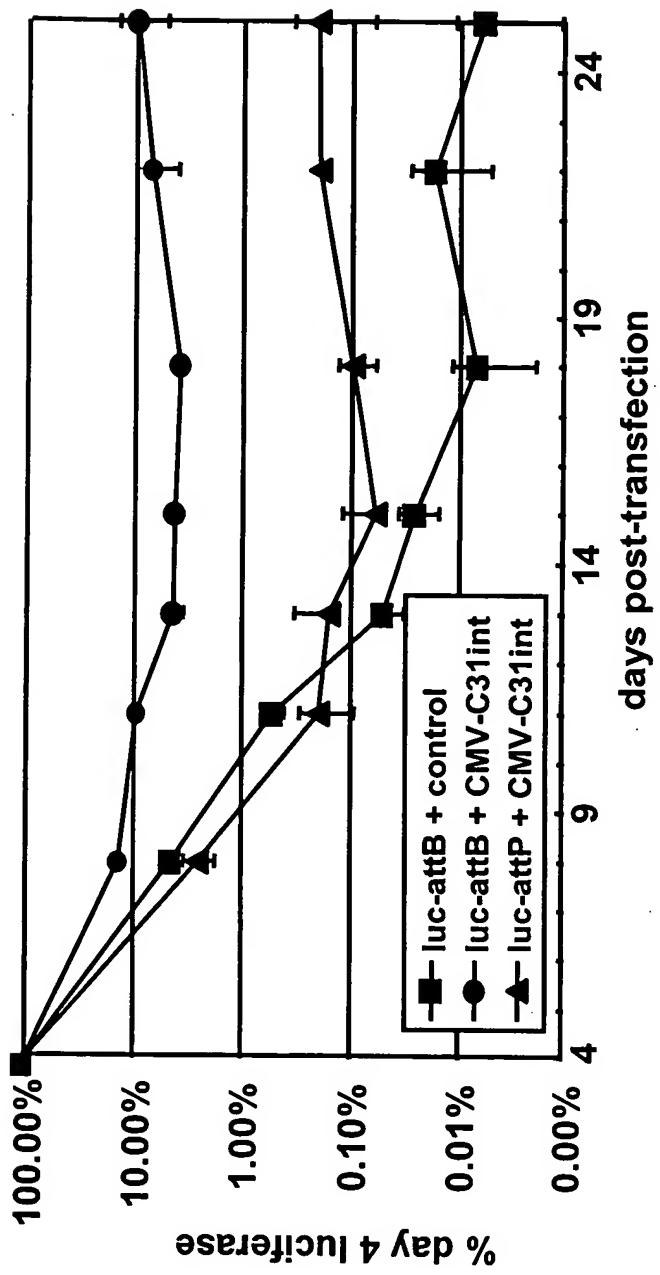


Fig. 2

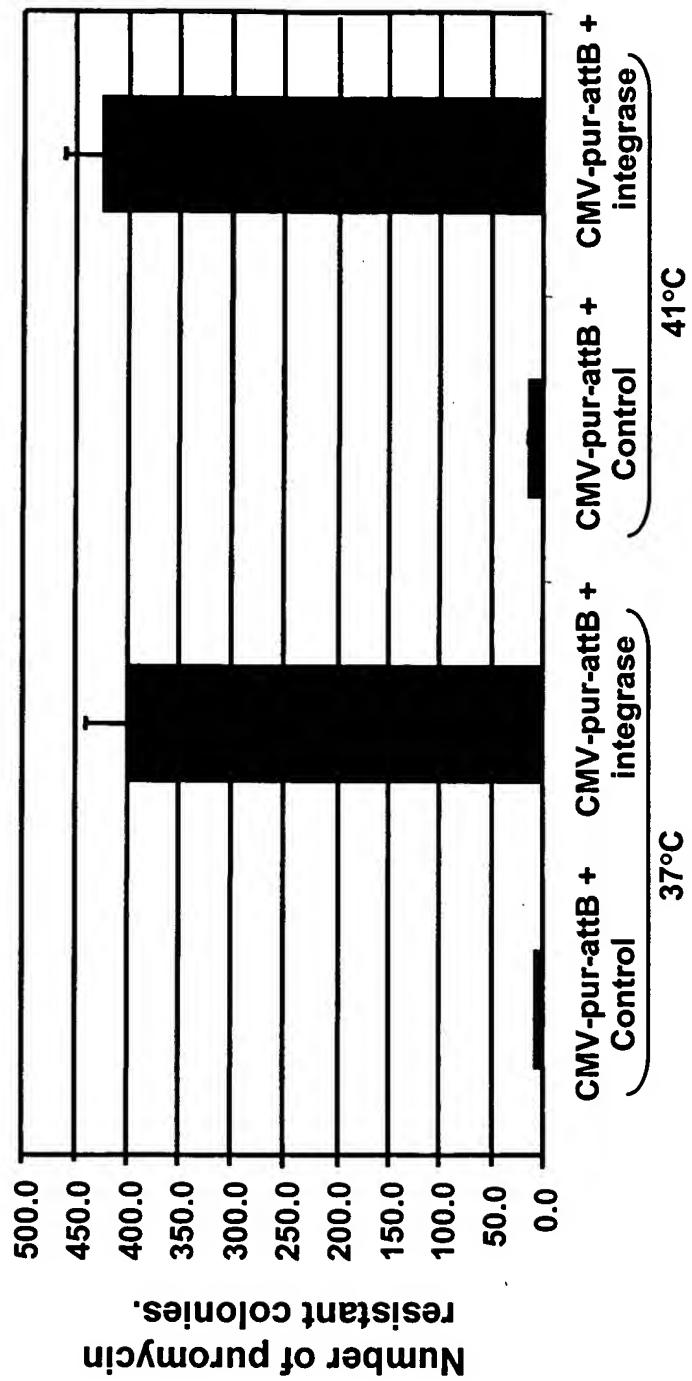


Fig. 3

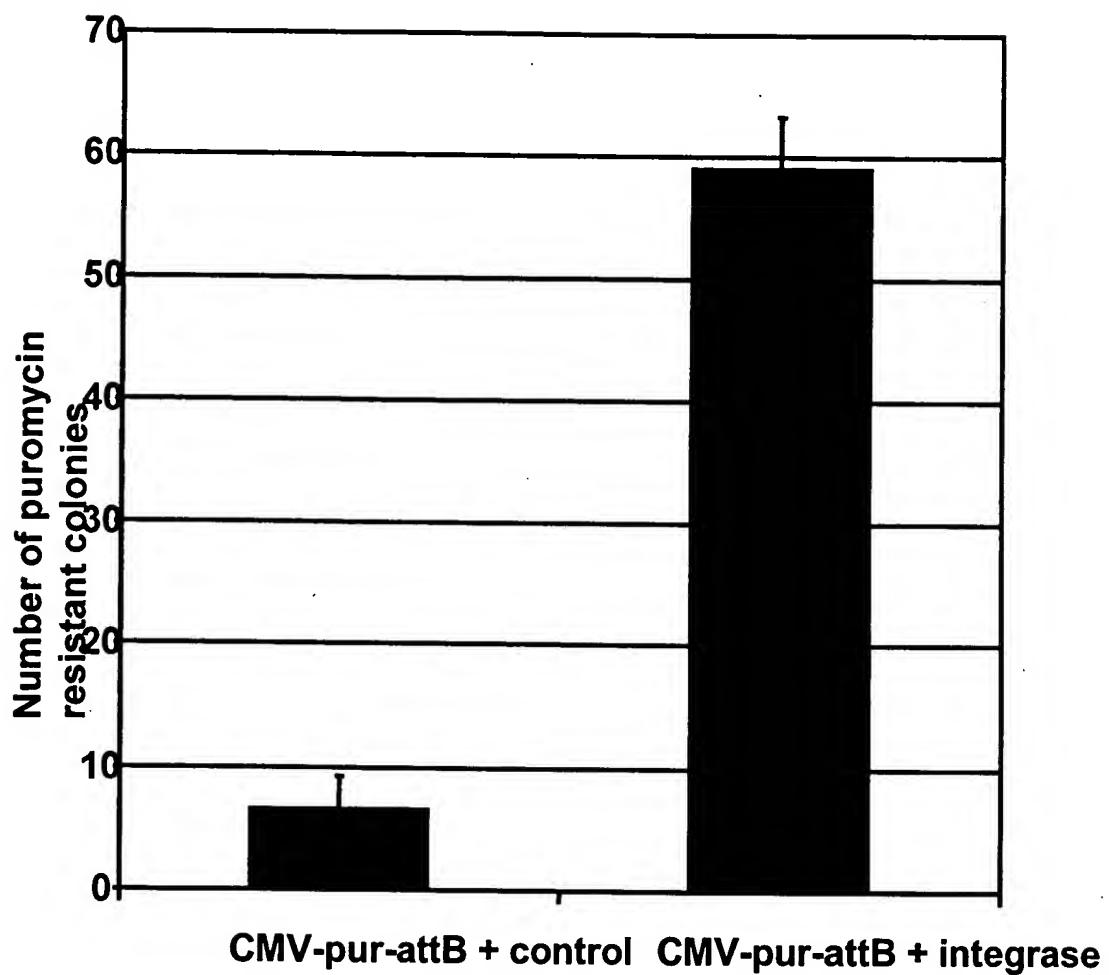


Fig. 4

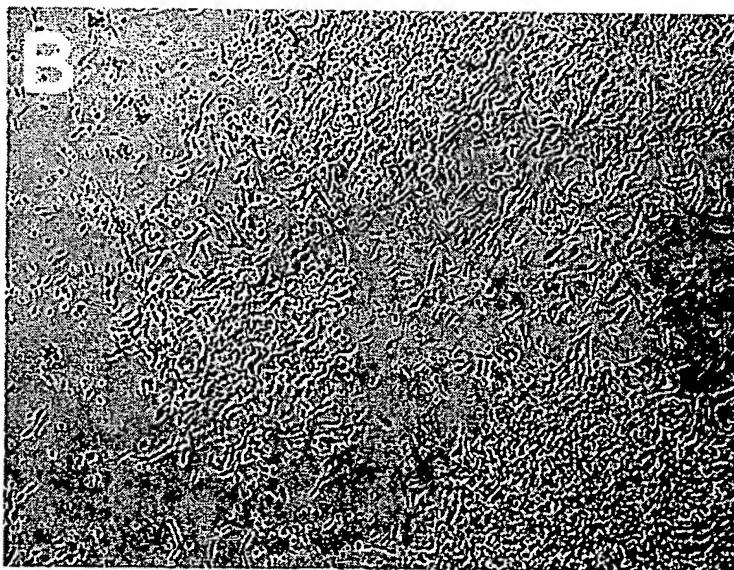
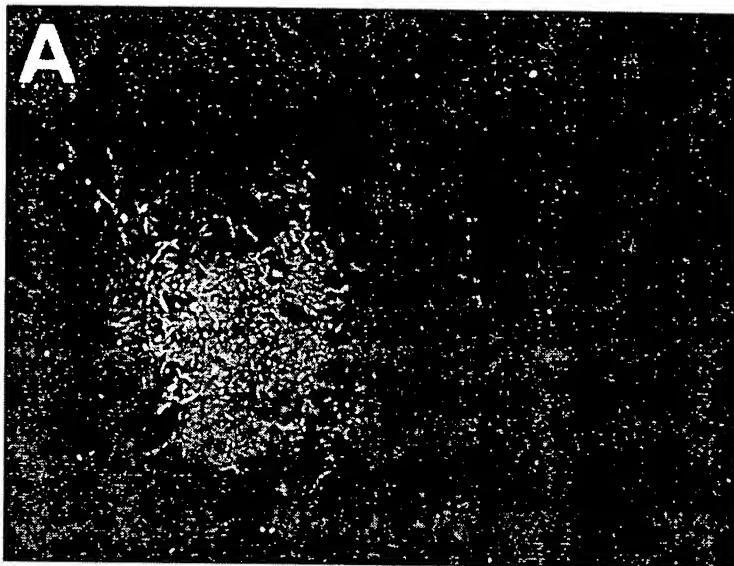


Fig. 5

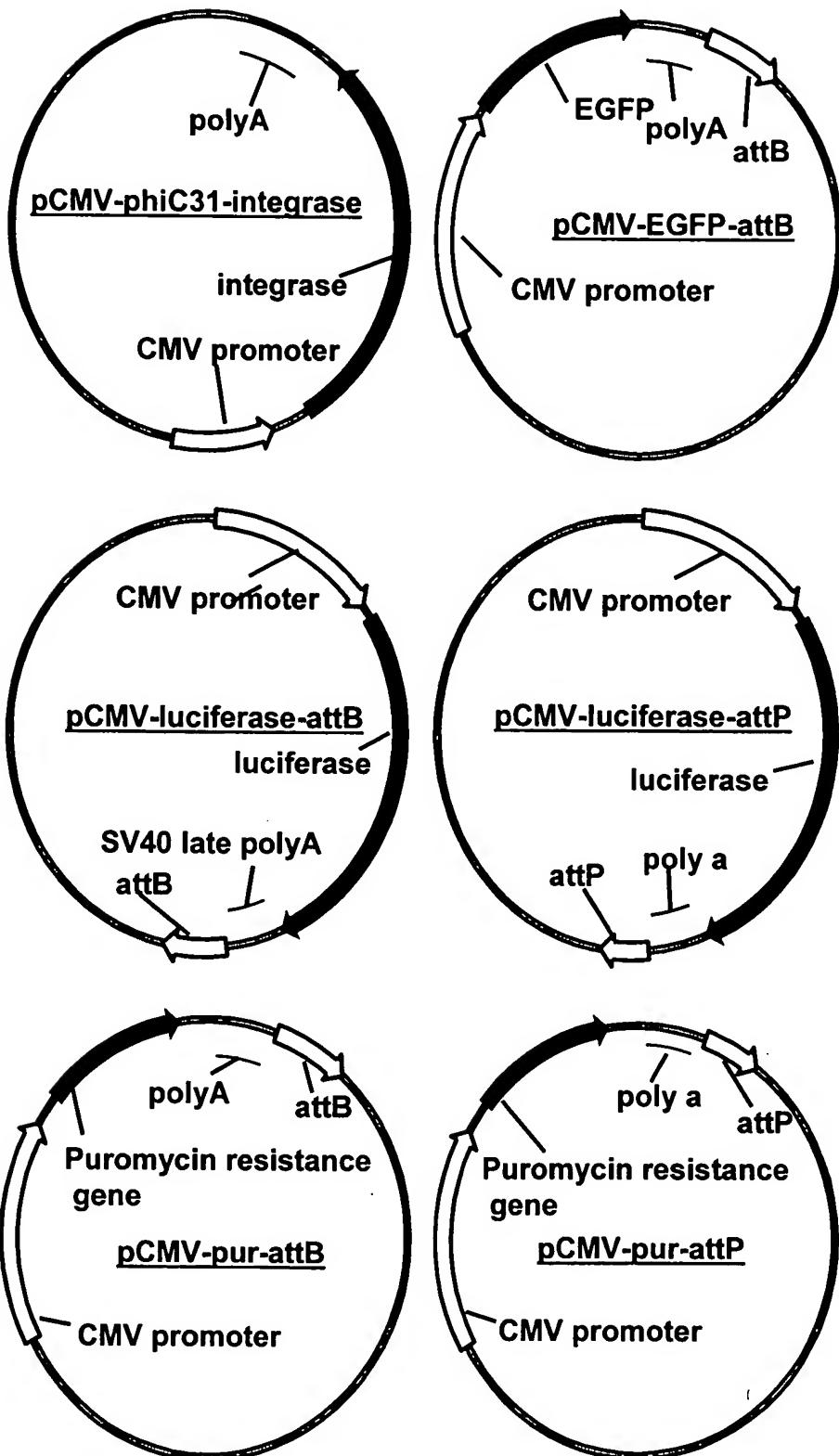
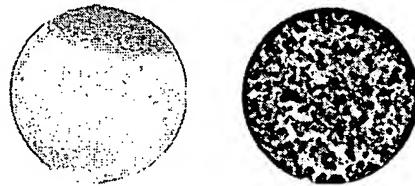
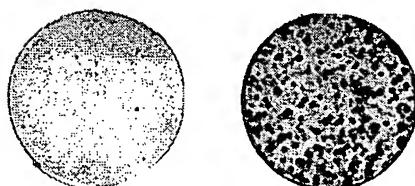


Fig. 6

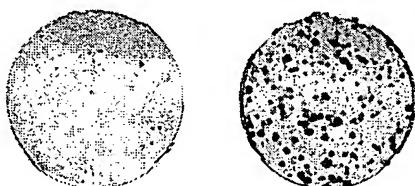
- integrase +integrase



pCMV-pur-attB



p-12.0-lys-LSPIFNMM-cmv-pur-attB



10 kb OM IFN-Ins-CMV-pur-attB

Fig. 7

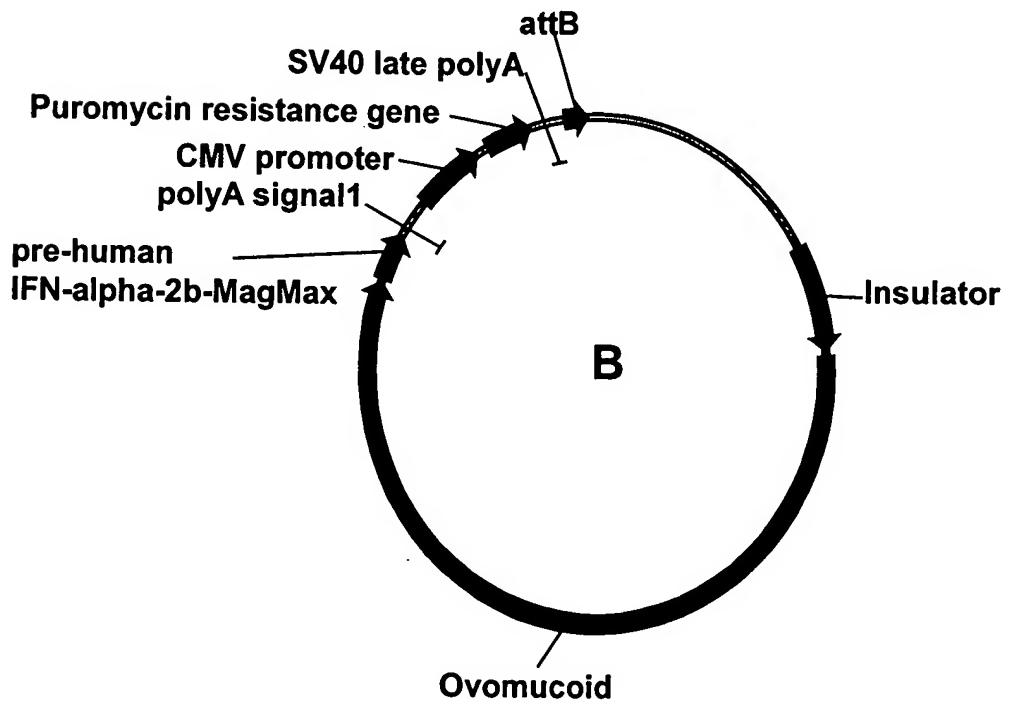
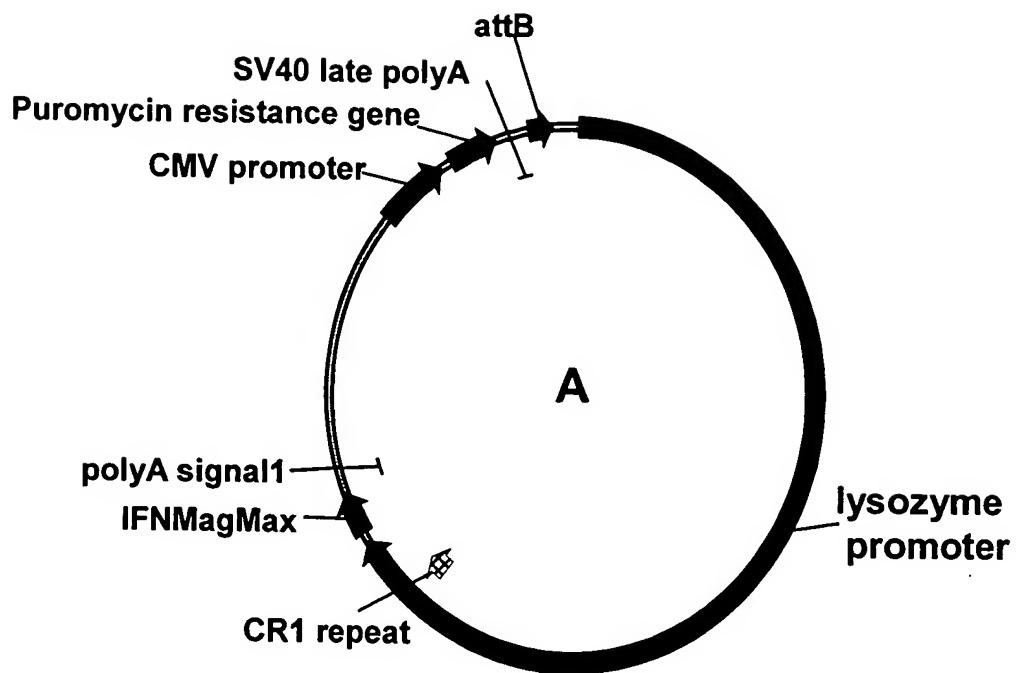


Fig. 8

pCMV-C31int (SEQ ID NO: 1)

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TAAACAAGTTAACACAACATTGCATTCACTTATGTTCAAGGTCAGGGGAGGTGTGGG
AGGTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGCTGATTATGATCATGAACAG
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Fig. 9

pCMV-luc-attB (SEQ ID NO: 2)

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GGT CG TT CGG CT GCG CG AGCG GT AT CAG CT CACT CAA AGG CG GT A AT AC GG TT AT CC AC AG
AAT CAGGG GATA A ACG CAGG AA AGA AC AT GT GAG CAA AAGG CCAG CAA AAGG CCAG GA ACC GT
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TCG AC GCT CA AGT CAG AGG TGG CG AA ACC CG AC AGG ACT AT AA AGA TA CC AGG CG TT CCC
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CCT TAT CC CG GT AACT AT CGT CT TGT GAG TCC A ACC CG GT AAG AC AC GACT AT CG CC AC TG
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CC AT CG TA AG AT GCT TT CT GT GACT GG TGA GT ACT CA ACC AAG TCA ATT CT
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Fig. 10

pCMV-luc-attP (SEQ ID NO: 3)

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TGC CGGAGGAGTTGTGTTGTGGACGAAGTACCGAAAGGTCTTACCGGAAAACCTCGACGCA
AGAAAAATCAGAGAGATCCTCATAAAGGCCAAGAACGGCGGAAAGATGCCGTGTAATTCTA
GAGTCGGGGCGGCCGGCGCTCGAGCAGACATGATAAGATACTTGTGAGTTGGACAAA
CCACAACATGCACTGAAAAAAATGCTTATTGTGAAATTGTGATGCTATTGCTTTA
TTTGTAAACCATATAAGCTGCAATAAACAAAGTTAACAAACAAATTGCAATTCTATTATGTT
TCAGGTTCAAGGGGAGGTGTGGAGGTTTTAAAGCAAGTAAACCTCTACAAATGTGGTA
AAATCGATAAGGATCAATTGGCTCGACTAGTACTGACGGACACCCGAAGGCCCGCGC
AACCCCTCAGCGGATGCCCGGGGCTTCACGTTTCCAGGTCAAGACGGTTTCGGGAGTA
GTGCCCAACTGGGTAACCTTGAGTTCTCAGTGGGGCGTAGGGTCGCCGACATGAC
ACAAGGGGTTGTGACCGGGTGGACACGTACCGGGTGCTTACGACCGTCAGTCGCGCAGC
GCGACTAGTACAAGCCGAATTGATCCGTGACCGATGCCCTGAGAGCCTCAACCCAGTCA
GCTCCTCCGGTGGCGGGCATGACTATCGTCCGCACTTATGACTGTCTTCTTATC
ATGCAACTCGTAGGACAGGTGCCGGCAGCGCTTCCGCTTCGACTCGACTCGCTGC

GCTCGGTCGGTGCAGCGAGCGGTATCAGCTACTCAAAGGCCGAATACGGTTATCC
ACAGAACATCAGGGATAACGCAAGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAA
CCGTAAGGAGGCCGCTTGCTGGCTTTCCATAGGCTCCGCCCTGACGAGCATCACA
AAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCCTT
CCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCCCTGCCGTTACCGATACCTGTC
CGCCTTCTCCCTCGGAAAGCGTGGCGCTTCTCAATGCTCACGCTGTAGGTATCTCAGTT
CGGTAGGTGCTCGCTCCAAGCTGGCTGTGACGAACCCCCGTTAGCCCACCGC
TGCCTTATCGGTAACACTATCGCTTGAGTCAACCCGTAAGACACGACTATGCCACT
GGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTACAGAGTTCT
TGAAGTGGTGGCCTAACTACGGTACACTAGAAGGACAGTATTGGTATCTGCCTGCTG
AAGCCAGTTACCTCGGAAAAAGAGTTGGTAGCTCTGATCCGCAAACAAACCACCGCTGG
TAGCGGTGGTTTTTGTGCAAGCAGCAGATTACCGCAGAAAAAAAGGATCTAAGAAG
ATCCTTGATCTTCTACGGGCTGACGCTCAGTGGAACGAAACTCACGTTAAGGGATT
TTGGTCATGAGATTATCAAAAGGATCTCACCTAGATCCTTAAATTAAAAATGAAGTT
TAAATCAATCTAAAGTATATGAGTAAACTGGTCTGACAGTTACCAATGCTTAATCAGTG
AGGCACCTATCTCAGCGATCTGCTATTCGTCATCCATAGTTGCCTGACTCCCCGTCGTG
TAGATAACTACGATACGGGAGGGTTACCATCTGGCCCGAGTGTGCAATGATACCGCGAGA
CCCACGCTCACCGCTCAGATTATCAGCAATAAACCCAGCCAGCCGGAAAGGGCCAGCGCA
GAAGTGGTCTGCAACTTATCCGCTCCATCCAGTCTATTAAATTGTTGCCGGAAAGCTAGA
GTAAGTAGTCGCCAGTTAATAGTTGCGCAACGTTGTCATTGCTACAGGCATCGTGGT
GTCACGCTCGTGTGTTGGTATGGCTTCATTGCTCCGTTCCAAACGATCAAGGGAGTTA
CATGATCCCCATGTTGCAAAAAAGCGGTTAGCTCTCGTCCGATCGTCAAGGCTAGA
AGTAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCAGTCATAATTCTCTACTGT
CATGCCATCCGTAAGATGCTTCTGTGACTGGTAGTACTCAACCAAGTCATTGAGAAT
AGTGTATGCGCGACCGAGTTGCTCTGCCCCGGCTCAATACGGGATAATACCGGCCACAT
AGCAGAACTTAAAGTGTCTCATATTGAAAACGTTCTCGGGCGAAAACCTCAAGGAT
CTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTCACCCACTGATCTCAGCAT
CTTTACTTCACCAGGTTCTGGGTGAGCAAAACAGGAAGGCAAAATGCCGAAAAAG
GGAATAAGGGCGACACGAAATGTTGAATACTCATACTCTCCTTTCAATATTGAG
CATTTATCAGGGTTATTGCTCATGAGCGGATACATATTGAATGTTAGAAAAATAAAC
AAATAGGGTCCGCGCACATTCCCCGAAAAGTGCACCTGACGCCCTGTAGGGCGCA
TTAAGCGCGGGGTGTGGTACGCGCAGCGTACCGCTACACTGCCAGCGCCCTAGC
GCCGCTCTTCTGCTTCTCCCTTCTCGCACGTTGCCGGCTTCCCGTCAAG
CTCTAAATCGGGGCTCCCTTAGGGTTCCGATTTAGTGTGCTTACGGCACCTCGACCCAAA
AAACTGATTAGGGTGTGGTCACGTAGTGGCCATGCCCTGATAGACGGTTTCGCC
TTTGACGTTGGAGTCCACGTTTAATAGTGGACTCTGTTCCAAACTGGAACAACACTCA
ACCTATCTCGGTCTATTCTTGTATTATAAGGGATTTGCCGATTCGGCTATTGGTTA
AAAAATGAGCTGATTAACAAAAATTAAACGCAATTAAACAAATATTAACGTTACAAT
TTCCCATCGCCATTCAAGGCTGCACACTGTTGGGAAGGGCGATCGGTGCCGGCTCTCGC
TATTACGCCAGCCAAGCTACCATGATAAGTAAGTAATATTAAAGGTACGGGAGGTACTTGG
GCAGCGCAATAAAATATCTTATTCATTACATCTGTGTGGTTTTGTGAATCG
ATAGTACTAACATACGCTCTCCATCAAAACAAAACAAACTAGCAAAATAGGC
TGTCCCCAGTGCAGGTGCCAGAACATT

Fig. 11

pCMV-pur-attB (SEQ ID NO: 4)

CTAGAGTCGGGGCGGCCGCGCTTCGAGCAGACATGATAAGATAACATTGATGAGTTGGAC
AAACCACAACATAGAACATGCAAGTGTGAAATTGTGATGCTATTGCT
TTATTGTAACCATTATAAGCTGAATAAACAAAGTTAACAAACAATTGCATTCAATTGCT
GTTTCAGGTTCAAGGGGAGGTGTGGAGGTTTTAAAGCAAGTAAAACCTCTACAAATGTG
GTAAAATCGATAAGGATCAATTGGCTTCAGGTACCGTCAGCATGTAGGTACGGTCTCGA
AGCCGGGTGCGGGTGCAGGGCGTGCCTTGGCTCCCCGGCGCGTACTCCACCTCACCC
ATCTGGTCCATCATGATGAACGGGTCAGGGTGGCGGTAGTTGATCCCGCGAACGGCGGGCG
CACCGGGAAGCCCTCGCCCTGAAACCGCTGGCGGGTGGTCACGGTGAGCACGGGACGTG
CGACGGCGTGGCGGGTGCAGGATACCGGGGAGCGTCAGCGGGTCTCGACGGTACGGCG
GGCATGTCGACAGCGAATTGATCCGTCAGCGATGCCCTTGAGAGCCTCAACCCAGTCAG
CTCCTTCCGGTGGCGGGGATGACTATCGTCGCCACTTATGACTGTCTTCTTATCA
TGCAACTCGTAGGACAGGTGCCGCAGCGCTTCCGCTTCGCTACTGACTCGCTGCG
CTCGGTGCTCGGCTGCGGCAGCGGTATCAGCTACTCAAAGGCGGTAATACGGTTATCCA
CAGAATCAGGGATAACGAGGAAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAAC
CGTAAAAGGCCGCGTTGCTGGCTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAA
AAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATAACCAGGCCTTC
CCCCCTGGAAGCTCCCTCGCGCTCTCCTGTTCCGACCCCTGCCGCTTACCGGATACCTGTCC
GCCCTTCTCCCTCGGGAGCGTGGCGCTTCTCAATGCTCACGCTGTAGGTATCTCAGTT
GGTAGGTGCTCGCTCAAGCTGGCTGTGACGAACCCCCGTTAGCCGACCGCT
GGCCTTATCCGTAACTATCGCTTGAGTCCAACCCGTAAGACACGACTTATGCCACTG
GCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGAGCGGTGCTACAGAGTTCTT
GAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTGGTATCTGCGCTTGCTGA
AGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTTGATCCGCAAACAAACCACCGCTGGT
AGCGGTGGTTTTGCAAGCAGATTACCGCAGAAAAAGGATCTAAGAAGA
TCCTTGATCTTCTACGGGCTGACGCTCAGTGAACGAAAACCTACGTTAAGGGATT
TGGTCATGAGATTATCAAAAGGATCTCACCTAGATCCTTAAATTAAAATGAAGTTT
AAATCAATCTAAAGTATATGAGTAAACTTGGTCTGACAGTTACCAATGTTAACAGTGA
GGCACCTATCTCAGCGATCTGCTATTGTTCATCCATAGTGCCTGACTCCCCGCGTGT
AGATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCCTGCAATGATACCGCGAGAC
CCACGCTCACCGGCTCCAGATTATCAGCAATAAACAGCCAGCCGAAGGGCGAGCGCAG
AAGTGGTCTGCAACTTATCCGCTCATCCAGTCATTAAATTGTTGCCATTGCTACAGGCATCGTGGT
TAAGTAGTTGCCAGTTAATAGTTGCGCAACGTTGCTGCAATTGCTACAGGCATCGTGGT
TCACGCTCGTCTGGTATGGCTTCATTCAAGCTCCGTTCCCAACGATCAAGGCAGTTAC
ATGATCCCCATGTTGCAAAAAAGCGTTAGCTCTCGGCTCCGATCGTTGTCAGAA
GTAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCACTGCATAATTCTCTACTGTC
ATGCCATCCGTAAGATGCTTTCTGTGACTGGTGGAGTACTCAACCAAGTCATTGAGAATA
GTGTATGCGCGACCGAGTTGCTCTGCCCCTGCAATACGGATAATACCGGCCACATA
GCAGAACTTTAAAGTGCCTCATTTGGAAAACGTTCTCGGGCGAAAACCTCAAGGATC
TTACCGCTGTTGAGATCCAGTTGATGTAACCCACTCGTCACCCAACTGATCTCAGCATC
TTTACTTCACCAGCGTTCTGGGTGAGCAAAACAGGAAGGCAAAATGCCGAAAAAGG
GAATAAGGGCGACCGAAATGTTGAATACTCATACTCTCCTTTCAATATTATTGAAGC
ATTATCAGGGTTATTGTCATGAGCGGATACATATTGAATGTTAGAAAATAACA
AAATAGGGGTTCCGCGCACATTCCCCGAAAAGTGCACCTGACGCGCCCTGAGCGCGCAT
TAAGCGCGCGGGTGTGGTTACCGCAGCGTACACTGCTCCAGCGCCCTAGCG
CCCGCTCTTCGCTTCTCCCTTCTCGCCACGTTGCCGGCTTCCCGTCAAGC
TCTAAATCGGGGCTCCCTTAGGGTCCGATTAGTGCCTTACGGCACCTCGACCCAAA
AACTGATTAGGGTGTGGTTACCGTAGTGGCCATGCCCTGATAGACGGTTTCGCCCT
TTGACGTTGGAGTCCACGTTCTTAATAGTGGACTCTGTTCCAAACTGGAACAAACACTCAA
CCCTATCTCGGTCTATTCTTTGATTATAAGGGATTGCGGATTCGGCCTATTGGTAA
AAAATGAGCTGATTAAACAAAATTAAACGCAATTAAACAAATATTAAACGTTACAATT
TCCCATTGCCATTAGGCTGCCAACTGTTGGGAAGGGCGATCGGTGCCCTTCTCGCT
ATTACGCCAGCCAAAGCTACCATGATAAGTAAGTAAATTAAAGGTACGGGAGGTACTGGAG
CGGCCGCAATAAAATCTTATTTCATTACATCTGTTGGTTTGTGAATCGA

TAGTACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAAACTAGCAAAATAGGCT
GTCCCCAGTGCAGTGAGGTGCCAGAACATTCTATCGATAGGTACCGAGCTTACGC
GTGCTAGCCCTCGAGCAGGATCTACATTGAATCAATTGGCAATTAGCCATTAGTC
TTGGTTATATAGCATAAATCAATTGGCTATTGGCATTGCATACGTTGTATCTATATCAT
AATATGTACATTATATTGGCTCATGTCCAATATGACCGCCATGTTGACATTGATTATTGAC
TAGTTATTAATAGTAATCAATTACGGGTCTTACGGGTCTAGTCATAGCCCATTGGAGTTCCGCG
TTACATAACTACGGTAAATGGCCCGCCTGGCTGACCGCCAACGACCCCCGCCATTGACG
TCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGACTTCCATTGACGTCAATGGGT
GGAGTATTTACGGTAAACTGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGC
CCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCAGTACATGACCTTA
CGGGACTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTATGCG
GTTTGGCAGTACATCAATGGCGTGGATAGCGGTTGACTCACGGGATTCCAAGTCTCC
ACCCCATTGACGTCAATGGGAGTTGTTGGCACCAAAATCAACGGGACTTCCAAAATGT
CGTAACAACCTCCGCCCATTGACGCAAATGGCGGTAGCGTGTACGGTGGGAGGTCTATAT
AAGCAGAGCTCGTTAGTGAACCGTCAGATCGCCTGGAGACGCCATCCACGCTGTTGACC
TCCATAGAAGACACCGGGACCGATCCAGCCTCCCTCGAAGCTCGACTCTAGGGCTCGAGA
TCTCGATCTAAGTAAGCTTGATGCCTGCAGGTGGCCACGACGGTGCCGCCACCAT
CCCCCTGACCCACGCCCTGACCCCTCACAAGGAGACGCCATTCCATGACCGAGTACAAGCCC
ACGGTGCCTCGCCACCCCGCAGACGACGTCCTGGCGTACGCACCCCTCGCCGCCCGT
CGCCGACTACCCCGCCACCGCGCACACCGTCGACCCGGACCGCCACATCGAGCGGGTCACCG
AGCTGCAAGAACTCTTCCTCACGCGCTGGGCTCGACATCGCAAGGTGTGGGTCGGGAC
GACGGCGCCGGTGGCGGTCTGGACCAAGCCGGAGAGCGTCAAGCGGGGGCGGTGTTCGC
CGAGATCGGCCCGCGATGGCGAGTTGAGCGGTTCCCGGCTGGCCGCGCAGCAACAGATGG
AAGGCCTCTGGCGCCGACCGGCCAAGGAGCCCGGTGGTTCTGGCCACCGTCGGCGTC
TCGCCCGACCACCAAGGGCAAGGGTCTGGGAGCGCCGTCGTGCTCCCCGGAGTGGAGGCGGC
CGAGCGCGCCGGGTGCCGCTCCTGGAGACCTCCGCGCCCCGCAACCTCCCCTCTACCG
AGCGGCTCGGCTCACCGTCACCGCCGACGTCGAGGTGCCCAGAGGACCGCGCACCTGGTGC
ATGACCCGCAAGCCGGTGCCTGACGCCGCCCCACGACCCGAGCGCCGACCGAAAGGAG
CGCACGACCCCATGGCTCCGACCGAAGCCGACCCGGCGGCCCCGCGACCCCGCACCGCC
CCCGAGGCCCACCGACT

Fig. 12

pCMV-pur-attP (SEQ ID NO: 5)

CTAGAGTCGGGGCGGCCGCGCTCGAGCAGACATGATAAGATAACATTGATGAGTTGGAC
AAACCACAACATAGAATGCAGTAAAAAAATGCTTATTGTGAAATTGTGATGCTATTGCT
TTATTTGTAACCATTATAAGCTGCAATAAACAAAGTTAACACAACAATTGCATTCAATTAT
GTTTCAGGTTAGGGGAGGTGTGGAGGTTTTAAAGCAAGTAAAACCTCTACAAATGTG
GTAAAATCGATAAGGATCAATTGGCTTCGACTAGTACTGACGGACACACCGAAGCCCCGGC
GGCAACCCCTCAGCGGATGCCCGGGCTCACGTTTCCCAGGTAGAACAGCGTTTCGGGA
GTAGTGCCCCAAGTGGGTAACCTTGAGTTCTCAGTTGGGGCGTAGGGTCGCCGACAT
GACACAAGGGGTTGTGACCGGGTGGACACGTACGCCGGTGCTACGACCGTCAGTCGCG
AGCGCGACTAGTACAAGCGAATTGATCCGTCACCGATGCCCTGAGAGCCTTCACCCAG
TCAGCTCCTCCGGTGGCGCGGGCATGACTATCGCCGCACCTTATGACTGTCTTCTT
ATCATGCAACTCGTAGGACAGGTGCGCGCAGCGCTTCCGCTTCCGCTACTGACTCGC
TGCCTCGGTGTTGGCTGCCGAGCGGTATCAGCTCACTCAAAGCGGTAAACGGTTA
TCCACAGAATCAGGGATAACGCAAGAAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAG
GAACCGTAAAAGGCCGCGTTGCTGGCGTTTCCATAGGCTCCGCCCCCTGACGAGCAGC
ACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATAACCG
TTTCCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCGACCTGCGCTTACCGGATAACCT
GTCCGCCTTCTCCCTCGGGAAAGCGTGGCGTTCTCAATGCTCACGCTGTAGGTATCTCA
GTTCGGTGAGGTGCTCGCTCCAAGCTGGCTGTGACGAAACCCCCGTTAGCCGAC
CGCTGCGCCTTATCCGTAACTATCGTCTGAGTCCAACCCGTAAGACACGACTATCGCC
ACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCAGGTATGTAGGCGGTACAGAGT
TCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCCTCTG
CTGAAGCCAGTTACCTTCGGAAAAGAGTTGGTAGCTTGATCCGAAACAAACCACCGC
TGGTAGCGGTGGTTTTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAAGGATCTCAAG
AAGATCCTTGATCTTCTACGGGCTGACGCTCAGTGGAAACGAAACTACGTTAAGGG
ATTTGGTCATGAGATTATCAAAGGATCTCACCTAGATCTTAAATTAAAATGAAG
TTTAAATCAATCTAAAGTATATGAGTAAACTTGGTCTGACAGTACCAATGCTTAATCA
GTGAGGCACCTATCTCGATCTGTCTTCTGTTCATCCATAGTTGCGCTGACTCCCCGTC
GTGTAGATAACTACGATAACGGGAGGGCTTACCATCTGGCCCCAGTGTGCAATGATAACCG
AGACCCACGCTCACCGCTCCAGATTATCAGCAATAAACCAGCCAGCCGGAAAGGGCGAGC
GCAGAAGTGGTCTGCAACTTATCCGCTCCATCCAGTCTATTAAATTGTTGCCGGAAAGCT
AGAGTAAGTAGTCGCCAGTTAATAGTTGCGCAACGTTGTCATTGCTACAGGCATCGT
GGTGTACGCTCGTGTGTTGGTATGGCTTATTCACTCAGCTCCGGTCCAAAGATCAAGGCAG
TTACATGATCCCCATGTTGTGCAAAAAGCGGTTAGCTCCTCGGTCCGATCGTTGTC
AGAAGTAAGTGGCCAGTGTATCACTCATGGTTATGGCAGCAGTGCATAATTCTCTTAC
TGTGATGCCATCCGTAAGATGCTTTCTGTGACTGGTAGTACTCAACCAAGTCATTCTGAG
AATAGTGTATGCGGCACCGAGTTGCTCTGCCCGCGTCAATACGGGATAATACCGGCCA
CATAGCAGAACCTTAAAGTGTCTCATATTGAAAACGTTCTCGGGCGAAAACCTCTCAAG
GATCTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTCACCCAACTGATCTCAG
CATCTTTACTTCACCAGCGTTCTGGGTGAGCAAAAACAGGAAGGAAAATGCCGAAAA
AAGGAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCTTCAATATTATTG
AAGCATTATCAGGGTATTGTCATGAGCGGATACATATTGATGTTAGAAAATA
AACAAATAGGGTTCCGCGCACATTCCCCGAAAGTGCACCTGACGCCCTGTAGCGGC
GCATTAAGCGCGCGGGTGTGGTACGCGCAGCGTACACTGCCAGCGCCCT
AGCGCCCGCTCTTCGTTCTCCCTTCTCGCCACGTTGCCGGCTTCCCCGTC
AAGCTCAAATCGGGGCTCCCTTAGGGTCCGATTAGTGTCTTACGGCACCTCGACCC
AAAAAACTGATTAGGGTGTGGTACGTTCTTAATAGTGGACTCTGTTCCAAACTGGAACAC
TCAACCCATCTCGGTCTATTCTTGATTATAAGGGATTGCGGATTCGGCTATTGG
TTAAAAAAATGAGCTGATTAAACAAAATTAAACGCAATTAAACAAAATTAAACGTTAC
AATTCCCATTGCCATTAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTT
CGCTATTACGCCAGCCAAAGCTACCATGATAAGTAAGTAATATTAAAGTACGGGAGGTACTT
GGAGCGGCCGCAATAAAATATCTTATTTCATTACATCTGTGTTGGTTTGTTGAA
TCGATAGTACTAACATACGCTCCATCAAAACAAAAGAAACAAAACAAACTAGCAAAATA

GGCTGTCCCCAGTCAAGTGCAGGTGCCAGAACATTCTATCGATAGGTACCGAGCTCTT
ACCGCTGCTAGCCCTCGAGCAGGATCTATACATTGAATCAATATTGGCAATTAGCCATATTA
GTCATTGGTTATATAGCATAAATCAATATTGGCTATTGGCATTGCATACGTTGTATCTATA
TCATAATATGTACATTTATATTGGCTCATGTCCAATATGACGCCATGTTGACATTGATTAT
TGACTAGTTATTAATAGTAATCAATTACGGGTCTAGTTCATAGCCATATATGGAGTTC
CGCGTTACATAACTTACGGTAAATGGCCCGCTGGCTGACCGCCAAACGACCCCCGCCCATT
GACGTCAATAATGACGTATGTTCCATAGTAACGCCAATAGGACTTCCATTGACGTCAAT
GGGTGGAGTATTACGGTAAACTGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGT
CCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCTGGCATTATGCCAGTACATGAC
CTTACGGGACTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGA
TGCGGTTTGGCAGTACATCAATGGCGTGGTAGCGGTTTGAUTCACGGGATTCCAAGT
CTCCACCCCATTGACGTCAATGGGAGTTGGCACCCTAACACGGGACTTCCAAA
ATGTCGTAACAACCTCCGCCCCATTGACGCAAATGGCGGTAGGCCTGTACGGTGGGAGGTCT
ATATAAGCAGAGCTCGTTAGTGAACCGTCAGATGCCCTGGAGACGCCATCCACGCTGTTT
GACCTCCATAGAAGACACCGGGACCGATCCAGCCTCCCTCGAAGCTGACTCTAGGGGCTC
GAGATCTGCGATCTAAGTAAGCTGCATGCCCTCGAGTCGGCCACGACCGGTGCCCA
CCATCCCCCTGACCCACGCCCTGACCCCTACAAGGAGACGACCTCCATGACCGAGTACAA
GCCACGGTGCCTGCCACCCGAGCGACGTCACCGTGACCCGGACGCCACATGAGCGGGTC
ACCGAGCTGCAAGAACTCTCCTCACGCGCTGGGCTCGACATGGCAAGGTGTGGGTC
GGACGACGGCGCCCGGGTGGCGGTCTGGACCACGCCAGAGCGCTGAAGCGGGGCGGTGT
TCGCCAGATGCCCGCGCATGCCAGTTGAGCGTTCCGGCTGGCGCGACGCAACAG
ATGGAAGGCCTCTGGCGCGCACCGGCCAAGGAGCCCGTGGTTCTGGCCACCGTCGG
CGTCTGCCGACCACCAAGGGCAAGGGTCTGGCGAGCGCCGTCGTGCTCCCGGAGTGGAGG
CGGCCGAGCGCCGGGTGCCCTTCCCTGGAGACCTCCGCCCAACCTCCCTTC
TACGAGCGGCTCGGCTCACCGTACCGCCGACGTGAGGTGCCGAAGGACCGCGCACCTG
GTGCATGACCCGCAAGCCGGTGCCTGACGCCGCCACGACCCGAGCGCCGACCGAAA
GGAGCGCACGACCCATGGCTCCGACCGAAGCCGACCCGGGGCCCCGCCGACCCGACC
GCCCGAGGCCACCGACT

Fig. 13

pCMV-EGFP-attB (SEQ ID NO: 6)

CTAGAGTCGGGGCGGCCGCGCTCGAGCAGACATGATAAGATACTTGATGAGTTGGAC
AAACCACAACCTAGAATGCAGTAAAAAAATGCTTATTGTGAAATTGTGATGCTATTGCT
TTATTGTAAACCATTATAAGCTGCAATAAACAAAGTTAACAAACAATTGCATTCTATTAT
GTTTCAGGTTCAGGGGGAGGTGTGGGAGGTTTTAAAGCAAGTAAAACCTCTACAAATGTG
GTAAAATCGATAAGGATCAATTCCGCTTCAGGTACCGTCAGCATGTTAGGTACGGTCTCGA
AGCCCGGGTGCAGGGTGCAGGGCGTGCCTGGCTCCCCGGCGGTACTCCACCTCACCC
ATCTGGTCCATCATGATGAACGGGTGAGGGTGGCGGTAGTTGATCCCGCGAACGCGCG
CACCGGGAAAGCCCTCGCCCTCGAAACCGCTGGCGCGGTGTCAGGTGAGCACGGGACGTG
CGACGGCGTGGCGGGTGCAGGATACCGGGCAGCGTCAGCGGTTCTGACGGTACGGCG
GGCATGTCACAGCCGATTGATCCGTCACCGATGCCCTTGAGAGCCTCAACCCAGTCAG
CTCCTCCGGTGGCGCGGGCATGACTATCGTCGCCACTATGACTGTCTTCTTATCA
TGCAACTCGTAGGACAGGTGCCGGCAGCGCTTCCGCTTCCGCTACTGACTCGCTGCG
CTCGGTGTTCCGGCTGCCGCAGCGGTATCAGCTACTCAAAGGCGTAATACGGTTATCCA
CAGAACATCAGGGATAACCGAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAAC
CGTAAAAGGCCGCGTTGCTGGCGTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAA
AAATCGACGCTCAAGTCAGAGGTGGCAGAACCCGACAGGACTATAAGATAACCAGGCCTTC
CCCCCTGGAAGCTCCCTCGCGCTCTCTGTTCCGACCCCTGCCGCTTACCGGATACTGTCC
GCCTTCTCCCTCGGGAAAGCGTGGCGCTTCTCAATGCTCACGCTGTAGGTATCTCAGTT
GGTAGGTGCTCGCTCCAAGCTGGCTGTGACGAACCCCCCGTTCAGCCCACCGCT
GCGCTTATCCGTAACTATCGTCTTGAGTCCAACCCGTAAGACACGACTTATGCCACTG
GCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTTAGGCGGTCTACAGAGTTCT
GAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTGGTATCTGCCTCTGCTGA
AGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTGATCCGGCAAACAAACCACCGCTGGT
AGCGGTGGTTTTTGTGCAAGCAGCAGATTACCGCGAGAAAAAAAGGATCTAAGAAGA
TCCTTGATTTCTACGGGTCTGACGCTCAGTGAACGAAAACTCAGTTAAGGGATT
TGGTCATGAGATTCAAAAGGATCTCACCTAGATCCTTTAAATTAAAAATGAAGTTT
AAATCAATCTAAAGTATATGAGTAAACTGGTCTGACAGTTACCAATGCTTAATCAGTGA
GGCACCTATCTCAGCGATCTGTCTATTGTTCATCCATAGTGCCTGACTCCCCGTG
AGATAACTACGATAAGGGAGGGCTTACCATCTGGCCCCAGTGTGCAATGATAACCGGAGAC
CCACGCTACCGGCTCCAGATTATCAGCAATAAACAGCCAGCCGGAAAGGGCCAGCGCAG
AAAGTGGTCTGCAACTTATCCGCTCCATCCAGTCTATTAAATTGTTGCCGGAAAGCTAGAG
TAAGTAGTTGCCAGTTAATAGTTGCGAACGTTGCTTGCCTACAGGCATCGTGGTG
TCACGCTCGTCTGGTATGGCTCATTAGCTCCGGTCCACGATCAAGGGAGTTAC
ATGATCCCCATGTTGCAAAAAAGCGGTTAGCTCCTCGGTCTCCGATCGTGTG
GTAAGTTGGCCGCAGTGTATCACTCATGGTTATGGCAGCACTGCATAATTCTTACTGTC
ATGCCATCCGTAAGATGTTCTGTGACTGGTAGTACTCAACCAAGTCATTGAGAATA
GTGTATGCGGCCACCGAGTTGCTCTGCCCGCGTCAATACGGATAATACCGGCCACATA
GCAGAACTTAAAGTGCCTCATCTGGAAAACGTTCTCGGGCGAAAACCTCAAGGATC
TTACCGCTGAGATCCAGTTCGATGTAACCAACTCGCACCCACTGATCTCAGCATC
TTTACTTCAACAGGTTCTGGGTGAGCAAAACAGGAAGGCAAAATGCCGAAAAAGG
GAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCAATTATTGAGC
ATTATCAGGGTATTGCTCATGAGCGGATACATATTGAATGTATTAGAAAATAACA
AAATAGGGGTTCCGCCACATTCCCCGAAAAGTGCACCTGACCGGCCCTGTAGGGCGCAT
TAAGCGCGCGGGTGTGGTGGTTACCGCAGCGTACCGCTACACTGCCAGCGCCCTAGCG
CCCGCTCTTCTGCTTCTCCCTTCTCGCCACGTTGCCGGCTTCCCGTCAAGC
TCTAAATCGGGGCTCCCTTACGGGTTCCGATTAGTGTCTTACGGCACCTCGACCCAAA
AACTGATTAGGGTGTGGTCACGTCAGTGGGCCATGCCCTGATAGACGGTTTCGCCCT
TTGACGTTGGAGTCCACGTTCTTAATAGTGGACTCTTGTGTCAGGAAACAACACTCAA
CCCTATCTCGGTCTATTCTTGTATTATAAGGGATTGCGGATTCGGCTATTGTTAA
AAAATGAGCTGATTAAACAAAATTAAACGCAATTAAACAAAATTAAACGTTACAATT
TCCCATTGCCATTAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCCCTTCTCGCT
ATTACGCCAGCCAAGCTACCATGATAAGTAAGTAATTAAAGGTACGGGAGGTACTTGGAG
CGGCCGAATAAAATCTTATTTCATTACATCTGTGTGGTTTGTGAATCGA

TAGTACTAACATACGCTCTCCATCAAAACAAAACGAAACAAACTAGCAAAATAGGCT
GTCCCCAGTGCAGTGCCAGAACATTCTCATCGATAGGTACCGAGCTCTACGC
GTGCTAGCCCTCGAGCAGGATCTACATTGAATCAATATTGGCAATTAGCCATTAGTC
TTGGTTATATAGCATAAATCAATATTGGCTATTGGCATTGCATACGTTGTATCTATCAT
AATATGTACATTATATTGGCTCATGTCCAATATGACCGCCATGTTGACATTGATTATTGAC
TAGTTATTAAATAGTAATCAATTACGGGTCTATTAGTCATAGCCCATTATGGAGTTCCGCG
TTACATAACTACGGTAAATGGCCCGCTGGCTGACGCCAACGACCCCCGCCATTGACG
TCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGACTTCCATTGACGTCAATGGGT
GGAGTATTTACGGTAAACTGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGC
CCCCTATTGACGTCAATGACGGTAAATGGCCCGCTGGCATTATGCCAGTACATGACCTTA
CGGGACTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTATGCG
GTTTGGCAGTACATCAATGGCGTGGATAGCGGTTGACTCACGGGATTCCAAGTCTCC
ACCCATTGACGTCAATGGAGTTGTTGGCACCAAAATCAACGGACTTTCCAAAATGT
CGTAACAACCTCGCCCCATTGACGCAAATGGCGGTAGCGTGTACGGTGGGAGGTCTATAT
AAGCAGAGCTCGTTAGTGAACCGTCAGATCGCCTGGAGACGCCATCCACGCTGTTGACC
TCCATAGAAGACACCGGGACCGATCCAGCCTCCCTCGAAGCTCGACTCTAGGGCTCGAGA
TCCCCGGGTACCGGTGCCACCATGGTGAGCAAGGGCGAGGAGCTGTTACCGGGGTGGTGC
CCATCCTGGTCGAGCTGGACGGCAGCTAAACGCCACAAGTTCAAGCTGTCGGCAGGGC
GAGGGCGATGCCACCTACGGCAAGCTGACCCCTGAAGTTCATCTGCACCAACGGCAAGCTGCC
CGTGCCTGGCCCACCCCTCGTACCGACCCCTGACCTACGGCGTGCAGTGCTTCAGCCGCTACC
CCGACCACATGAAGCAGCACGACTTCTCAAGTCCGCCATGCCGAAGGCTACGTCCAGGAG
CGCACCATCTTCTCAAGGACGACGGCAACTACAAGACCCGCCAGGGTGAAGTTGAGGG
CGACACCCCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTCAAGGAGGACGGCAACATCC
TGGGGCACAAGCTGGAGTACAACACTACAACAGCCACAACGTCTATATCATGGCCGACAAGCAG
AAGAACGGCATCAAGGTGAACCTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCT
CGCCGACCACCTACAGCAGAACACCCCATCGGCAGGCCCGTGTGCTGCCCCACAACC
ACTACCTGAGCACCCAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGCGATCACATGGTC
CTGCTGGAGTTCGTGACCGCCGCCGGATCACTCTGGCATGGACGAGCTGTACAAGTAAAG
CGGCCGCTCGAGCATGCAT

Fig. 14

p-12.0-lys-LSP1FNMM-CMV-pur-attB (SEQ ID NO: 7)

GGGCTGCAGGAATTGATTGCCCTTCTTGATATTCACTCTGTGTATTCATCTCTTCT
TGCGCATGAAAGGATAAACAGTCTGTATAAACAGTCTGTGAGGAAACTTGTTATTCTTC
TGATCAGTGTGTTATAAGTAATGTTGAATATTGGATAAGGCTGTGTCCTTGTCTGGG
AGACAAAGCCCACAGCAGGTGGTGGTGGTGGCAGCTCAGTGACAGGAGAGGTTTT
TTGCCCTGTTTTTTTTTTTTAAGTAAGGTGTTCTTTCTTAGTAAATTCT
CTACTGGACTGTATGTTGACAGGTGAGAACATTCTCAAAGAACCTTTGGAAA
CTGTACAGCCCTTTCTTCATTCCCTTTGTTCTGTGCAATGCCCTTGGTCTGATT
GCATTATGGAAAACGTTGATCGAACCTGAGGTTTTATTATAGTGTGGCTTGAAAGCTTG
GATAGCTGTTACACGAGATACTTATTAGTTAGGCCAGCTGTGCTTATTCTTC
CCTTGAAAGTAGTGAGCGTTCTGGTTTGAAACTGGTGAGGCTAGATTTT
CTAATGGGATTTTTACCTGATCTAGTTGCATACCCAAATGCTTGAAATGTTTCTA
GTTAACATGTTGATAACTCGGATTACATGTTGATATACTTGTCACTGTGTTCTAGTA
AAAATATATGGCATTATAGAAATACGTAATTCCCTGATTCCTTTTTTATCTCTATGCT
CTGTGTGTACAGGTCAAACAGACTCACTCCTATTTTATTAGAATTATATGCAGTC
TGTGTTGGTTCTGTGTTGAGGATACAGCCTAAATTCTAGAGCGATGCTCAGTAAG
GCGGGTTGTACATGGGTCAAATGTAACAGGGCACGTTGCTGCTGCCCTCCGAGATC
CAGGACACTAAACTGCTCTGCACTGAGGTTAAATCGCTTCAGATCCCAGGGAAGTGCAGA
TCCACGTGCATATTCTAAAGAAGAATGAAATCTTCTAAAATATTGGCATAGGAAGCAA
GCTGCATGGATTGTTGGACTAAATTATTGGTAACGGAGTGCATAGGTTAAACAC
AGTTGCAGCATGCTAACAGAGTCACAGCGTTATGCAGAAGTGATGCCTGGATGCCGTTGCA
GCTGTTACGGCACTGCCTTGCACTGAGGATAGGGTGGGTGCTTGTGCTG
TTCCACACGCTGCCACACAGCCACCTCCCGAACACATCTCACCTGCTGGTACTTTCAA
ACCATCTTAGCAGTAGTAGATGAGTTACTATGAAACAGAGAAGTCCCTAGTTGGATATTCT
CATGGGATGTCTTTTCCATGTTGGCAAAGTATGATAAAGCATCTTATTTGAAATTAA
TGCACTTGTTAGTTCTGAATCCTTCTATAGCACCCTTATTGCAAGCAGGTGAGGCTCTG
GTGTGGCCTGTGCTGTGCTCAATCTTAAAGCTCTTGAAATACACTGACTTGATTG
AAAGTCTCTGAAAGATAGTAAACAGTACTTACCTTGTGATCCAATGAAATCGAGCATTCA
TGTAAGGAAATTCCGCCTATTCAACCATGTAATGTAATTTCACCCCCAGTGCTGACACT
TTGGAATATATCAAGTAATAGACTTGGCCTCACCTCTTGTTACTGTATTGTAATAG
AAAATTTAAACTGTGCATATGATTATTACATTATGAAAGAGACATTCTGCTGATCTTCA
AATGTAAGGAAATGAGGAGTGCCTGCTTTATAAATACAAGTGATTGCAAATTAGTGAG
GTGTGCTAAAAAAAGTAATATAAAAAGGACCAGGTGTTTACAAGTGAAT
ACATTCCATTGGTAAACAGTTACATTGAAAGATTACAGCGCTGCTGACTTCTAA
ACATAAGGCTGTATTGCTTCTGTACCATTCGATTCCCTCATCCCAATTGCAACAAGGAT
GTCTGGGTAACATTCAAGAAATGGCTTGAAATACAGCATGGAGCTGTGAGTTGGA
ATGCAGAGTTGCACTGCAAAATGTCAGGAATGGATGTCTCTCAGAATGCCCAACTCCAAAG
GATTTATATGTGTTAGTAAGCAGTTCTGATCCAGCAGGCCAAAGAGTCTGCTGAA
TGTTGTGTTGCCGAGACCTGTATTCTCAACAAGGTAAGATGGTATCTAGCAACTGCGGA
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TTTAGATGTTACTGAAATACTGCATAACTTGTGTTCTGATGGGTTCTTTTCA
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ACACCCAGATCATCAAGCTATGATGGAAGCGGTATCAGAAGAGCGAGGAAGGTAAAGCAGTCT
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TTGGTGCAGCACAGTCTGGCTATGAAAGTCTGCTTACAAGGAAGAGGATAAAATCATAG
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TCTCAAATGAACACTCAAACAAACATTCAAAGTCTAGTAGAAAGTAACAAGCTTGAATGTCA
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CACCCCTCTGTGAAGAACCTTTCCCTGACATCCAATCTAAGCCTCCCTCCTGAGGTTAG
ATCCACTCCCCCTTGTGCTATCACTGTCTACTCTGTAAAAAGTTGATTCTCCTCCTTTG
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CCAGCCCTCTTGATGGAGCCCTGGATACAACACTGGCTTCTGAGCTGCAACTCTCCTTAT
CAGTTCCACTATTAAAACAGGAACAATACAACAGGTGCTGATGGCAGTGCAGAGTTTCA
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GCAACATGAGGTCTTGTAAATCTGGTCTTGTCTCCCTGGCTGCTTAGGGTGC
GATCTGCCTCAGACCCACAGCCTGGCAGCAGGAGGACCTGATGCTGCTGGCTCAGATGAG
GAGAACATCAGCCTGTTAGCTGCCTGAAGGAATAGGCACGATTTGGCTTCCCTCAAGAGGAGT
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TTACACCGAGCTGTACCAAGCAGCTGAACGATCTGGAGGCTTGCCTGATCCAGGGCTGGCG
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GATCATGAGGAGCTTAGCCTGAGCACCAACCTGCAAGAGAGCTGAGGTCTAAGGAGTAAA
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CAACTCGTAGGACAGGTGCCGGCAGCGCTTCCGCTTCCGCTCACTGACTCGCTGCGCT
CGGTGTTCGGCTGCCGGAGCGGTACAGCTCACTAAAGCGGTAAACGGTTATCCACA
GAATCAGGGATAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCG
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ATCGACGCTCAAGTCAGAGGTGGCGAAACCGACAGGACTATAAAGATAACCAAGGCGTTCCC
CCTGGAAAGCTCCCTCGCGCTCTCCTGTTCCGACCCCTGCCGCTTACCGGATACCTGTCCGC
CTTCTCCCTCGGGAAAGCGTGGCGTTCTCAATGCTCACGCTGTAGGTATCTCAGTTCGG
TGTAGGTCGTTCGCTCCAAGCTGGCTGTGCAACGACCCCCGGTCAAGCCGACCGCTGC

GACCGCCACATCGAGCGGGTACCGAGCTGCAAGAACTCTTCCTCACGCCGTGGGCTCGA
CATCGGCAAGGTGTGGGTCGCGGACGACGGCGCGCGGTGGCGGTCTGGACCACGCCGGAGA
GCGTCGAAGCGGGGGCGGTGTTCGCGAGATCGGCCCGCGCATGGCGAGTTGAGCGGTTCC
CGGCTGGCCGCGCAGCAACAGATGGAAGGCCTCTGGCGCCGACCGGCCAAGGAGCCCCGC
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GGCGTGCCTGGCTCCCCGGCGCGTACTCCACCTCACCCATCTGGTCATCATGATGAA
CGGGTCGAGGTGGCGGTAGTTGATCCCGCGAACCGCGCGCACCGGGAAAGCCCTCGCCCT
CGAAACCGCTGGCGCGGGTGGTCACGGTGAGCACGGGACGTGCGACGGCGTCGGCGGTGCG
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GATCCGTCACCGATGCCCTTGAGAGCCTCAACCCAGTCAGCTCCTCCGGTGGCGCGGG
GCATGACTATCGTCGCCGACTTATGACTGTCTTATCATGCAACTCGTAGGACAGGTG
CCGGCAGCGCTTCCGCTTCCTCGCTCACTGACTCGCTCGCTCGGTGTTGGCTGCGGC
GAGCGGTATCAGCTCAAAAGCGGTAATACGGTTATCCACAGAATCAGGGATAACGCA
GGAAAGAACATG

Fig. 15

pOM IFN-Ins-CMV-pur-attB (SEQ ID NO: 8)

GGCCGCCACCGCGGTGGAGCTCAAATTGCCCTATAGTAGTCGATTACAATTCACTGGCC
GTCGTTTACAACGTCGTACTGGAAAACCTGGCGTTACCCAACCTTAATGCCTTGAGC
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TCCCTTAGGGTTCGATTAGTCTTACGGCACCTGACCCCCAAAAACTTGATTAGGGT
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CTGCTGCAAACAAAAACCACCGTACCGAGCGGGTTGGCTGCCGGATCAAGAGCTAC
CAACTCTTTCCGAAGGTAACTGGCTTACAGCAGAGCGCAGATAACAAACTGTCCTTCTA
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GCTAATCCTGTTACCGAGGCTGCTGCCAGTGGGATAAGTCGTGTTACCGGGTTGGACT
CAAGACGATAGTTACCGGATAAGGCGCAGCGGTGGCTGAACGGGGGGTCTGACACAG
CCCAGCTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAG
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Fig. 16

pRSV-C31int (SEQ ID NO: 9)

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ACAAGGGGTTGTGACCGGGGTGGACACGTACCGGGTGCTTACGACCGTCACTCGCGCA
GCGCGAGAATTGAGCGCAGCAAGCCCAGCGACACAGCGTAGCGCAACGAAGACAAGGC
GGCGCACCTCAGCGCAAGTCGAGCGCAGCGGGCCGGTTAGGTTCGTCGGCATT
CAGCGAAGCGCCGGCACGTCGGCTCGGACGGCGGAGCGCCGGAGTTCGAACGCAT

CCTGAACGAATGCCGCGCCGGCGGCTAACATGATCATTGTCTATGACGTGTCGCCTT
CTCGCGCCTGAAGGTATGGACCGCATTCGATTGTCTCGAATTGCTCGCCCTGGCGT
GACGATTGTTCCACTCAGGAAGGCGTCTCCGGCAGGGAAACGTATGGACCTGATTCA
CTTGATTATGCGGCTCGACCGTGCACAAAGAACATCTCGCTGAAGTCGGCGAAGATTCT
CGACACGAAGAACCTTCAGCGCAATTGGCGGGTACGTCGGCGGGAAAGGCGCCTACGG
CTTCGAGCTTGTGAGACGAAGGAGATCACGCCAACGCCGAATGGTCAATGTCGT
CATCAACAAGCTTGCACACTGACCAACTCCCCTAACGGACCCTCGAGTTGAGGCCGA
CGTAATCCGGTGGTGGCGTGGAGATCAAGACGCACAAACACCTTCCCTCAAGGCCGG
CAGTCAGGCCATTCACCGGGCAGCATCACGGGCTTGTAAAGCGCATGGACGCTGA
CGCCGTGCCACCCGGGCGAGACGATTGGAAGAACGCGCTCAAGCGCTGGGACCC
GGCAACCGTTATGCGAATCCTCGGACCCCGTATTGCGGCTTCGCCGTGAGGTGAT
CTACAAGAAGAACGCCGACGGCACGCCAACGAAGATTGAGGGTTACCGCATTAGCG
CGACCCGATCACGCTCCGCCGGTCGAGCTTGATTGCGGACCGATCATCGAGGCCGCTGA
GTGGTATGAGCTTCAGCGTGGTGGACGGCAGGGGGCGCGCAAGGGGCTTCCGGG
GCAAGCCATTCTGTCCGCCATGGACAAGCTGACTGCGAGTGTGGCGCCGTATGACTTC
GAAGCGGGGAAGAACATGATCAAGGACTTTACCGCTGCCGTGCCGAAGGTGGTCGA
CCCGTCCGCACCTGGGCAGCACGAAGGACGTCAACGTCAAGCATGGCCGACTCGACAA
GTTCGTTGCCAACGCATCTCAACAAGATCAGGCACGCCAACGGCAGAACAGAGCTT
GGCGCTTCTGTGGGAAGCCGCCGACGCTCGCAAGCTCACTGAGGCGCCTGAGAACAG
CGCGAACGGCGAACCTTGTGGAGCGCCGACGCCCTGAACGCCCTGAAGAGCT
GTACGAAGACCGCGCGCAGGCGTACGACGGACCCGTTGGCAGGAAGACGGCTGCCAAC
GCAACAGGCAGCGCTGACGCTCCGGCAGCAAGGGCGGAAGAGCGGGCTGCCAAC
AGCCGCCAACGCCGAAGCTCCCTGACCAATGGTCCCCGAAGACGCCGACGCTGA
CCCGACCGGCCCTAACGTGTTGGGGCGCGTCACTAGACGACAAGCGCGTGGCGT
CGGGCTTCTCGTAGACAAGATCGTTGTCAGCAAGCTGACTACGGGCAAGGGGCGAG
GCCCATCGAGAACGCCGCTTCGATCACGTGGCGAAGCCGCCACGACGACGAAGA
CGACGCCAGGACGGCACGGAACGACGTTAGCGGCGTAGCGAGAACCCGGATCCCTCGAG
GGCCCTATTCTATAGTCACCTAAATGCTAGAGCTCGCTGATCAGCCTCGACTGTGCCT
TCTAGTTGCCAGCCATCTGTTGCCCCCTCCCCGTGCCTCCTGACCCCTGAAAGGT
GCCACTCCACTGTCCTTCTAATAAAATGAGGAATTGACGCTGAGTAGG
TGTCAATTCTATTCTGGGGGTGGGGTGGGCAGGACAGCAAGGGGAGGATTGGGAAGAC
AATAGCAGGCATGCTGGGATGCGGTGGCTATGGCTCTGAGGCGGAAAGAAC
TGCCCAAGTCATAGCCGAATAGCCTCTCCACCCAAGCGGCCGGAGAAC
CTGCGTGAATCCACTGGGGCGCG

Fig. 17

pCR-XL-TOPO-CMV-PUR-attB (SEQ ID NO: 10)

AGCGCCAATACGCAAACGCCCTCCCCGCGCTTGGCCGATTCAATTAAATGCAGCTGGC
ACGACAGGTTCCCGACTGGAAAGCGGGCAGTGAGCGAACGCAATTAAATGTGAGTTAGC
TCACTCATTAGGCACCCAGGTTTACACTTATGCTTCCGGCTCGTATGTTGTGGAA
TTGTGAGCGATAACAATTACACAGGAAACAGCTATGACCATGATTACGCCAAGCTAT
TTAGGTGACCGCTTAGAATACTCAAGCTATGCATCAAGCTTGGTACCGAGCTCGGATCCA
CTAGTAACGGCCGCCAGTGTGCTGGAATTGCCCTTGGCCGCAATAAAATATCTTATT
TCATTACATCTGTGTTGGTTTTGTGATGAACTGATAGTACTAACATACGCTCTCCAT
CAAAACAAAAGAAACAAAACAAACTAGCAAAATAGGCTGCCCCAGTGCAGTGCAGGT
GCCAGAACATTCTATCGATAGGTACCGAGCTTACGCGTGTAGCCCTCGAGCAGG
ATCTATACATTGAATCAATATTGGCAATTAGCCATAATTAGTCATTGGTTATATAGCATAA
ATCAATATTGGCTATTGGCATTGCATACGTTGATCTATCATATAATGTACATT
ATTGGCTATGTCCAATATGACCGCCATGTTGACATTGATTATTGACTAGTTATTAAATAG
TAATCAATTACGGGTCTTACGTTCATAGCCATATATGGAGTTCCGCGTTACATAACT
ACGGTAAATGGCCCGCTGGCTGACGCCAACGACCCCCGCCATTGACGTCAATAATG
ACGTATGTTCCCCTAGTAACGCAATAGGGACTTCCATTGACGTCAATGGGTGGAGTAT
TTACGGTAAACTGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT
ATTGACGTCAATGACGGTAAATGGCCCGCTGGCATTATGCCAGTACATGACCTTACGG
GACTTTCTACTTGGCAGTACATCTACGTTAGTCATCGCTATTACCATGGTATGCGG
TTTGGCAGTACATCAATGGCGTGGATAGCGGTTGACTCACGGGATTTCAAAGTCTC
CACCCCATGACGTCAATGGAGTTGTTTGGCACCAAAATCAACGGACTTCCAAAA
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TATATAAGCAGAGCTCGTTAGTGAACCGTCAGATCGCTGGAGACGCCATCCACGCTGT
TTTGACCTCCATAGAACGACACGGGACCGATCCAGCCTCCCCCTCGAAGCTCGACTCTAGG
GGCTCGAGATCTCGATCTAAGTAAGCTTGCATGCCCTGCAGGTCGGCCACGACCGGT
GCCGCCACCATCCCCCTGACCCACGCCCCCTGACCCCTCACAGGAGACGACCTTCCATGAC
CGAGTACAAGCCCACGGTGCCTCGCCACCCGACGACGCTCCCCGGGCCGTACGCAC
CTCGCCGCCGCGTTCGCCACTACCCGCCACCGCCACCCGTGACCCGGACGCCA
CATCGAGCGGGTCAACGAGCTGCAAGAACTCTTCTCACGCGTGTGGCTCGACATCGG
CAAGGTGTGGTCCGGACGACGGCGCGCGTGGAGCTGGACCACGGGAGAGCGT
CGAAGGGGGGGCGGTGTTGCCGAGATCGGCCCGCATGGCGAGTTGAGCGGTCCCCG
GCTGGCCGCGCAGCAACAGATGGAAGGCTCTGGCGCCGACCGGCCAAGGAGCCGC
GTGGTTCTGGCACCGTCCGCTCGCCGACCCAGGGCAAGGGTCTGGCAGCGC
CGTCGTCTCCCCGAGTGGAGGGCGCGAGCGGCCGGGGTGCCCGCTTCTGGAGAC
CTCCGCCCCCGCAACCTCCCCCTACGAGCGGCTCGCTTCAACCGTCACCGCCACGT
CGAGGTGCCCGAAGGACCGCCACCTGGTGCATGACCGCAAGCCGGTGCCTGACGCC
GCCCGACCGACCGCAGCGCCGACCGAAAGGAGCGCACGACCCCATGGCTCCGACCGAAG
CCGACCCGGCGGGCCCCGCCGACCCCGACCCGCCGAGGCCCCACCGACTCTAGAGTC
GGGGCGCCGCCGCTTCGAGCAGACATGATAAGATAATTGATGAGTTGGACAAACCA
CAACTAGAATGCACTGAAAAAAATGTTTATTGAAATTGATGCTATTGCTTAT
TTGTAACCATTATAAGCTGCAATAAAACAGTTAACAAACAAATTGCAATTCTATTG
TTCAGGTTAGGGGAGGTGTTGGAGGTTTTAAAGCAAGTAAACCTCTACAAATGTG
GTAAAATCGATAAGGATCAATTGGCTTCAGGTACCGTCGACGATGTAGGTACGGTCTC
GAAGCCGGTGCCTGGGTGCCAGGGCTGCCCTCGAAACCGCTGGCGCGTGGTACGGTGAGC
ACCCATCTGGTCCATCATGATGAAACGGTCGAGGTGGCGGTAGTTGATCCGGCAACGC
GCCGCCACCGGGAAAGCCCTGCCCTCGAAACCGCTGGCGCGTGGTACGGTGAGC
GGGACGTGCGACGGCGTCGGGGTGCGGATACCGGGGAGCGTCAAGGGTTCTCGAC
GGTCACGGGGCATGTCGACAGCGAATTGATCCGTCGACCGATGCCCTGAGAGCCTT
CAACCCAGTCAGCTCTCCGGTGGCGGGCATGACTATCGTCGCCGACTTATGAC
TGTCTCTTATCATGCAACTCGTAGGACAGGTGCCGGCAGCGCTCTCCGCTTCTCGC
TCACTGACTCGCTCGCTCGTCTGGCTGCCCTCGGGCTGCCGAGCGGTATCAGCTCACTCAAAGG
CGGTAAACGGTTATCCACAGAATCAGGGATAACCGAGGAAAGAACATGAAGGGCAAT
TCTGCAGATATCCATCACACTGGCGGCCCTCGAGCATGCTAGAGGGCCAATTGCG
CCTATAGTGTAGTCGTATTACAATTCACTGGCGTCGTTTACAACGTCGTGACTGGAAA
ACCTGGCGTTACCCAACCTTAATCGCCTTGCAGCACATCCCCCTTCCGAGCTGGCGTA
ATAGCGAAAGAGGCCGACCGATGCCCTTCCAAACAGTGTGCGCAGCTACGTACGGC
AGTTTAAGGTTACACCTATAAAAGAGAGAGCCGTTATGTCGTTGTGGATGTACAGA
GTGATATTATTGACACGCCGGCGACGGATGGTATCCCCCTGCCAGTGCACGTCTGC

TGTCAGATAAAGTCTCCGTGAACTTACCCGGTGGTGCATATCGGGGATGAAAGCTGGC
GCATGATGACCACCGATATGCCAGTGTGCCGGTCTCCGTATCGGGGAGAAGTGGCTG
ATCTCAGCCACCGCAAATGACATCAAAAACGCCATTAAACCTGATGTTCTGGGAATAT
AAATGTCAGGCATGAGATTATCAAAAAGGATCTCACCTAGATCCTTACGTAGAAAG
CCAGTCCGAGAACCGTGTGACCCCGGATGAATGTCAGCTACTGGCTATCTGGACAA
GGGAAAACCCAAGCGCAAAGAGAAAGCAGGTAGCTGAGTGGCTTACATGGCGATAGC
TAGACTGGCGGTTTATGGACAGCAAGCGAACCGGAATTGCCAGCTGGGCGCCCTCTG
GTAAGGTGGGAAGCCCTGCAAAGTAAACTGGATGGCTTCTCGCCGCAAGGATCTGAT
GGCGCAGGGGATCAAGCTGATCAAGAGACAGGATGAGGATCGTTCGATGATTGAAC
AAGATGGATTGACCGCAGGTTCTCCGGCCGTTGGGTGGAGAGGCTATCGGCTATGACT
GGGCACACACAGACAATCGGCTGCTGTGATGCCGCCGTGTCGGCTGTCAGCGCAGGGC
GCCGGTTCTTGTCAAGACCGACCTGTCGGTGCCTGAAATGAACGCAAGACGAGG
CAGCGCGCTATCGTGGCTGGCCACGACGGGCGTCCCTGCGCAGCTGTCGACGTTG
TCACTGAAGCGGGAAAGGGACTGGCTGCTATTGGCGAAGTGGCCGGGCAGGATCTCCTGT
CATCTCACCTGCTCTGCCAGAGAAAGTATCCATATGGCTGATGCAATGCCGCCGCTGC
ATACGCTTGTACCGGCTACCTGCCATTGACCAAGCGAAACATCGCATCGAGCGAG
CACGTAACCGGATGGAAGCGGTCTTGTGATCAGGATGATCTGGACGAAGAGCATCAGG
GGCTCGCGCCAGCGAACCTGTCGCCAGGCTCAAGGCAGCATGCCGACGGCGAGGATC
TCGTCGTGACCCATGGCGATGCCCTGCTGCCAATATCATGGTGGAAAATGCCGCTTT
CTGGATTCATCGACTGTGGCCGGTGGGTGTGGCGGACCGCTATCAGGACATAGCGTTGG
CTACCCGTGATATTGCTGAAGAGCTTGGCGCGAATGGCTGACCGCTCCTCGTGCCTT
ACGGTATGCCGCTCCCATTGCAAGCGCATGCCCTATGCCCTCTGACGAGTTCT
TCTGAATTATAACGTTACAATTCTGATGCGTATTTCTCCTTACGCATCTGTGCG
GTATTTCACACCGCATACAGTGGCACTTTCGGGAAATGTGCGCGGAACCCCTATTTG
TTTATTTCTAAATACATTCAAATATGATCCGCTCATGAGACAATAACCTGATAAAAT
GCTTCATAATAGCACGTGAGGAGGGCACCAGGCCAAGTTGACCGAGTGGCTCCGGT
GCTCACCGCGCGACGTCGCCGGAGCGGTGAGTTCTGGACCGACGGCTCGGGTCTC
CCGGGACTTCGTGGAGGACGACTTCGCCGGTGTGGTCCGGGACGACGTGACCCCTGTTCAT
CAGCGGGTCCAGGACCAGGGTGGTGCCTGACAACACCCCTGCCCTGGGTGTGGGTGCGCG
CCTGGACGAGCTGTACGCCAGTGGTGGAGGTGTCGCCAGAACCTCCGGGACGCC
CGGGCCGGCATGACCGAGATCGCGAGCAGCGTGGGGGGAGTTGCCCTGCGCG
CCCGGCCGGCAACTGCGTGCACCTCGTGGCCGAGGAGCAGGACTGACACGTGCTAAACT
TCATTTTAATTAAAAGGATCTAGGTGAAGATCTTTTGATAATCTCATGACCAAAAT
CCCTTAACGTGAGTTCTGTCCTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATC
TTCTTGAGATCTTTCTGCGCTAATCTGCTGCTGCAAACAAAAAACCCCGCT
ACCAGCGGTGGTTGTTGCGGATCAAGAGCTACCAACTCTTCCGAAGGTAACCTGG
CTTCAGCAGAGCGCAGATACAAACTGTCCTCTAGTGTAGCCGTAGTTAGGCCACCA
CTTCAGAACACTGTAGCACCGCCTACATACCTCGCTCTGCTAATCCTGTTACCGTGGC
TGCTGCCAGTGGCGATAAGTCGTGCTTACCGGGTTGGACTCAAGACGATAGTTACCGGA
TAAGGCCAGCGGTGGCTGAACGGGGGGTCTGTCACACAGCCAGCTGGAGCGAAC
GACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAAGCGCCACGCTCCGA
AGGGAGAAAGCGGACAGGTATCCGTAAGCGGCAGGTGCGAACAGGAGAGCGCACGAG
GGAGCTTCAGGGGAAACGCCCTGGTATCTTATAGTCCTGTCGGGTTGCCACCTCTG
ACTTGAGCGTCGATTTGTGATGCTCGTCAGGGGGCGGAGCCTATGAAAAACGCCAG
CAACGCCGCCTTTTACGGTCTGGCTTGTGGCTTTCGCTCATGTTCTTCC
TGCCTTATCCCTGATTCTGTTGAGTACCGTATTACGCCCTTGAGTGTAGCTGATACCGC
TCGCCGCAGCCGAACGACCGAGCGCAGCGAGTCAGTGAGCGAGGAAGCGGAAG

FIG. 18

SEQ ID NO: 11

GACTAGTACTGACGGACACACCGAAGCCCCGGCGCAACCCTCAGCGGATGCCCGGGGCTT
CACGTTTCCCAGGTCAAGCGGTTTCGGGAGTAGTGCCCCAACTGGGTAACCTTGAG
TTCTCTCAGTTGGGGCGTAGGGTCGCCGACATGACACAAGGGTTGTGACCGGGTGGACA
CGTACGCGGGTGCTTACGACCGTCAGTCGCGCGAGCGCGACTAGTACA

Fig. 19

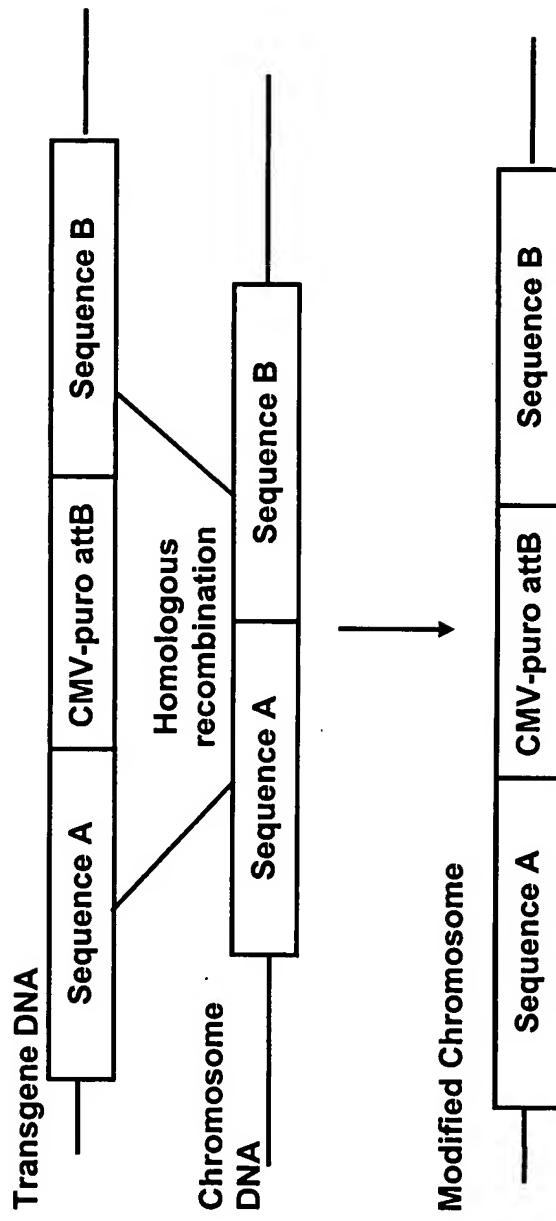


Fig. 20

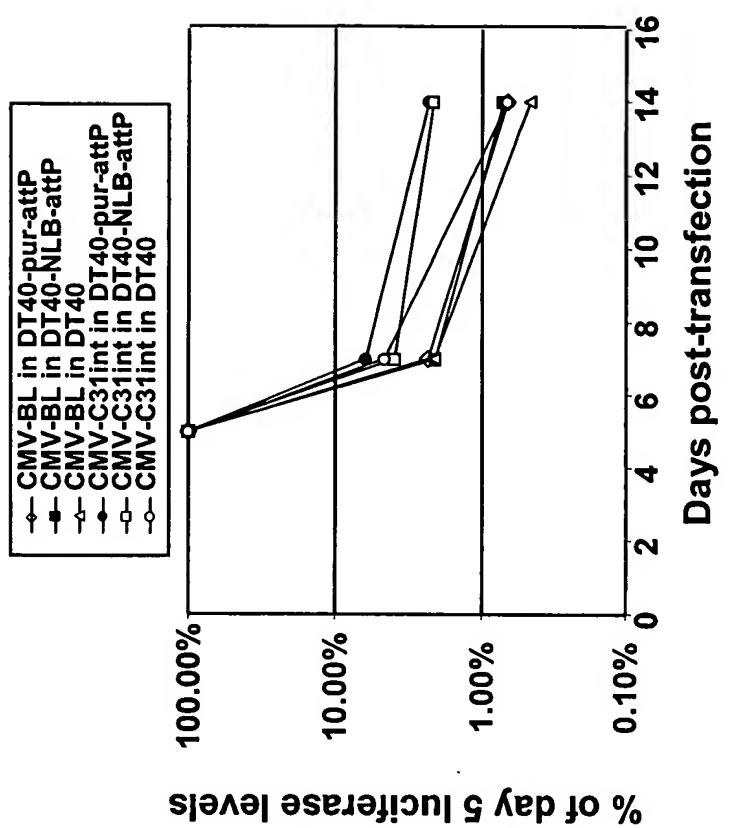


Fig. 21

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Fig. 22

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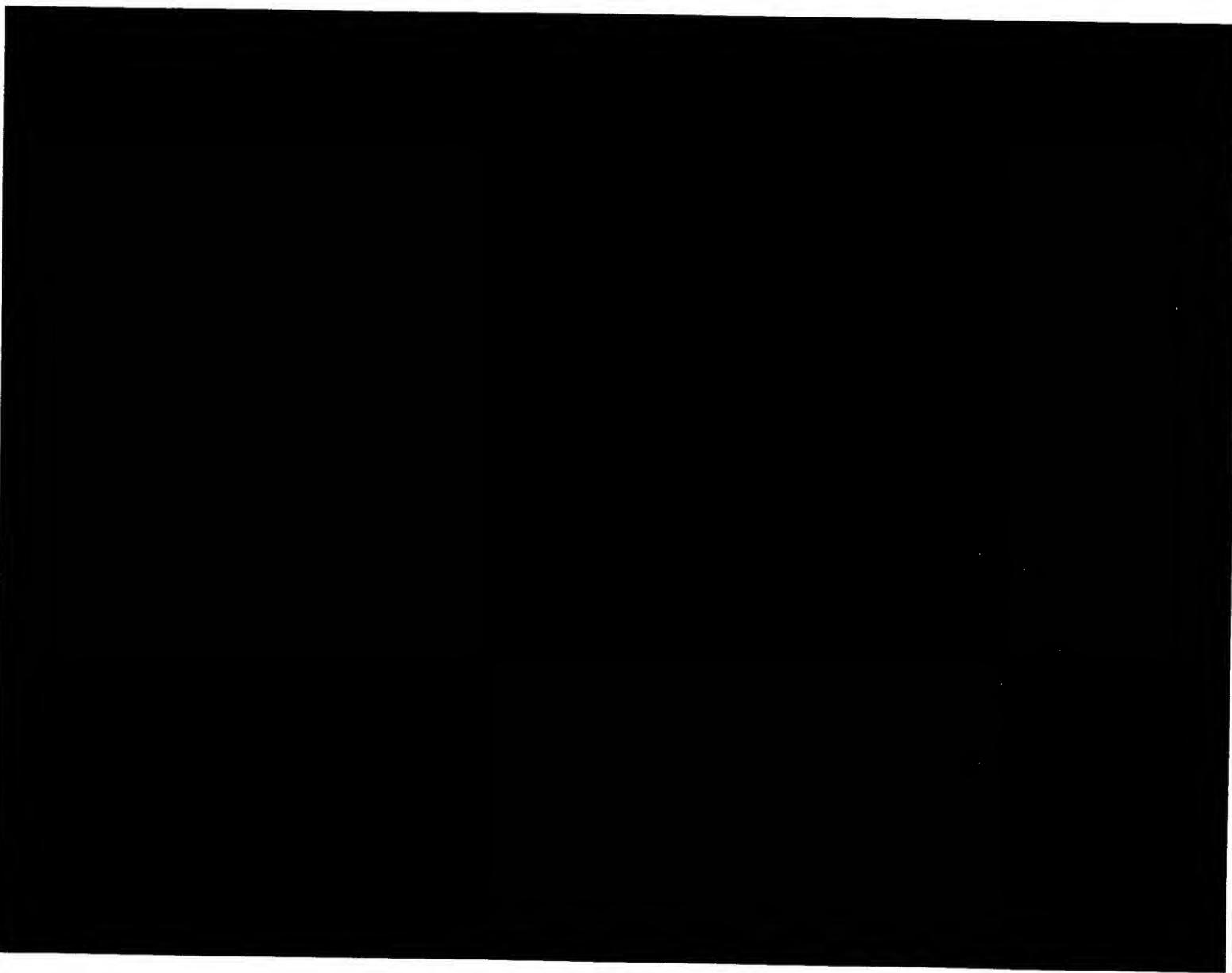


Fig. 23

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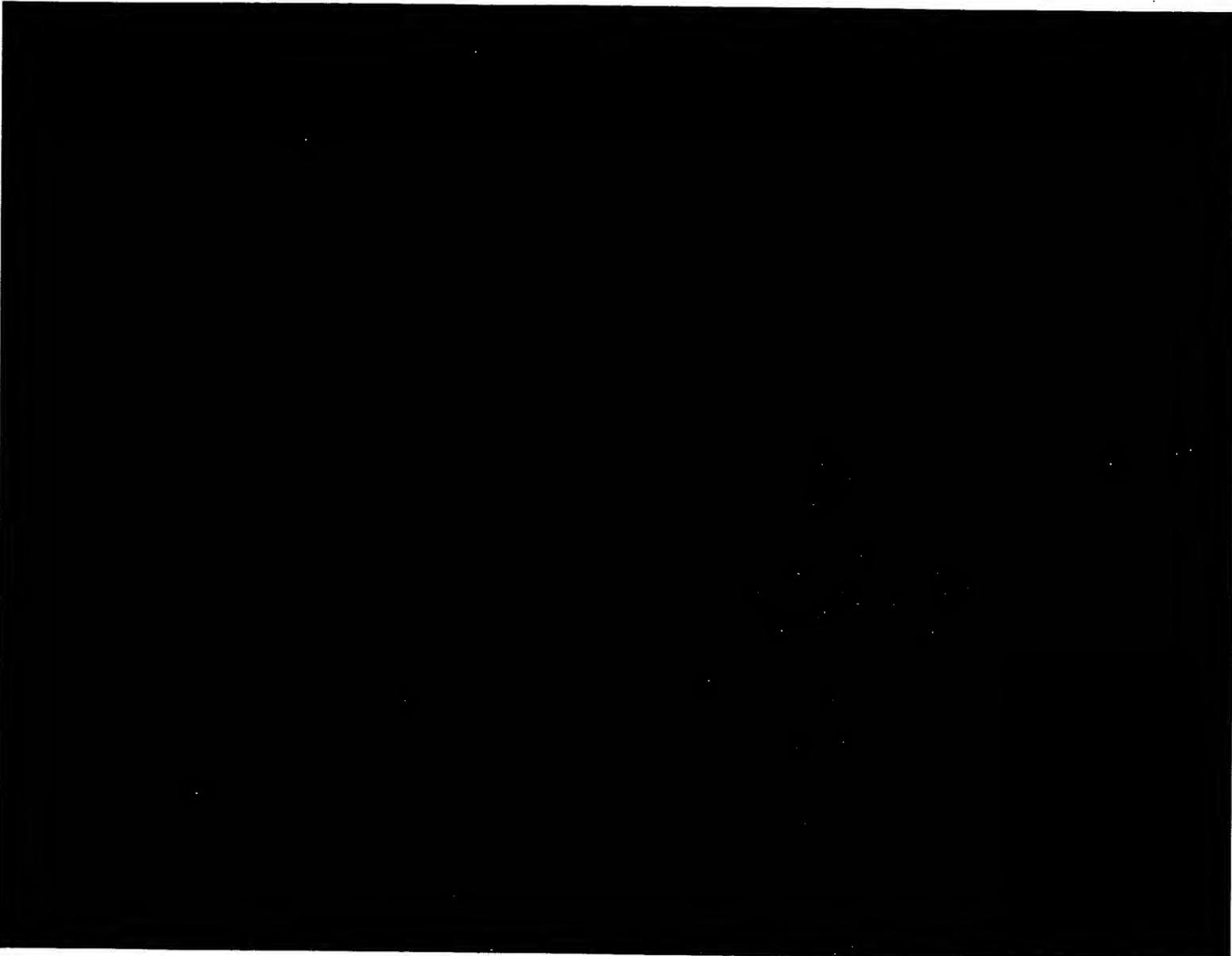


Fig. 24